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10/615,277	07/07/2003	Victor Pinto	ZRAN.038US0	8223

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EXAMINER	
SELBY, GEVELL V	

ART UNIT	PAPER NUMBER
2622	

NOTIFICATION DATE	DELIVERY MODE
05/21/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/615,277	PINTO ET AL.	
	Examiner	Art Unit	
	Gevell Selby	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) *4 and 5* is/are allowed.

6)☒ Claim(s) *1-3,6-13 and 16* is/are rejected.

7)☐ Claim(s) *14 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 6-13, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Kakarala, et al., US 2004/0051798.

In regard to claim 1, Kakarala, et al., US 2004/0051798, discloses a method of distinguishing high quality elements from potentially defective elements in an array of photo-sensitive elements while illuminated with an object field of varying light intensity thereacross, comprising:

calculate a plurality difference values between outputs of individual ones of the elements and a plurality of neighboring elements (see figure 5A, steps 504-508 and para 47-52),

determine the signs of the difference values for a given one of the individual elements (see figure 5A, steps 514 and 516 and para 54);

if the difference values for the given one of the individual elements have different signs, identify the given element to be of high quality (see figure 5A, step 518 and para 54), and

if the difference values for the given element have the same signs, identify the given element to be potentially defective and only thereafter proceed to compare the difference values with at least one threshold (see figure figures 5B and 5C and para 71 and 87).

In regard to claim 2, Kakarala, et al., US 2004/0051798, discloses a method of identifying and correcting defective ones of an array of photo-sensitive pixels, comprising:

directing an object field of varying light intensity across the array (see para 29), calculating difference values between outputs of individual ones of the pixels and a plurality of neighboring pixels (see figure 5A, steps 504-508 and para 47-52),

if the difference values for a given one of the pixels have different signs, utilizing the output of the given pixel for data of the object field without comparing the difference values with a threshold (see figure 5A, step 518 and para 54),

if the difference values for the given pixel have the same sign, determining whether the difference values are in excess of a threshold (see fig. 5B, step 534 and fig. 5C, step 564),

if the difference values are not in excess of the threshold, utilizing the output of the given pixel for data of the object field (see figure figures 5B, step 546 and 5C, step 576), and

if the difference values are in excess of the threshold, calculating a value of the given pixel from at least some of the neighboring pixels and utilizing the calculated pixel value in data of the object field (see fig. 5B, step 548 and 5B, step 578).

In regard to claim 3, Kakarala, et al., US 2004/0051798, discloses the method of claim 2, wherein said threshold includes either of at least first or second quantities that are different from each other depending upon whether said same sign is positive or negative (see figure 5A, steps 514-517: if sign is positive determines threshold using max of gradients (fig. 5B) and if sign is negative determines threshold using min of gradients (fig. 5C)).

In regard to claim 6, Kakarala, et al., US 2004/0051798, discloses the method of claim 2, wherein determining whether the difference values are in excess of a threshold includes determining whether positive difference values are in excess of a first threshold and negative difference values are in excess of a second threshold different from the first threshold (see figure 5A, steps 514-517: if sign is positive determines threshold using max of gradients (fig. 5B) and if sign is negative determines threshold using min of gradients (fig. 5C)).

In regard to claim 7, Kakarala, et al., US 2004/0051798, discloses a method of distinguishing high quality elements from potentially defective elements in an array of

photo-sensitive elements while illuminated with an object field of varying light intensity thereacross, comprising:

maintaining at least one threshold quantity (see fig. 5B, step 534 and fig. 5C, step 564),

calculating difference values between outputs of individual ones of the elements and neighboring elements (see figure 5A, steps 504-508 and para 47-52),

if the difference values for a given one of the individual elements have different signs, identifying the given element to be of high quality without comparing the difference values of the given element with the at least one threshold quantity (see figure 5A, step 518 and para 54), and

if the difference values for the given element have the same signs, proceed to compare the difference values with the at least one threshold quantity in order to determine whether the given element is defective(see figure figures 5B and 5C and para 71 and 87).

In regard to claim 8, Kakarala, et al., US 2004/0051798, discloses the method of claim 7, wherein calculating difference values includes calculating difference values between outputs of individual ones of the elements and at least four surrounding neighboring elements, thereby calculating at least four difference values for individual ones of the elements (see para 47-52).

In regard to claim 9, Kakarala, et al., US 2004/0051798, discloses the method of claim 8, wherein the given element is identified to be of high quality when at least one of

the at least four difference values has a different sign than the other difference values (see figure 5A, steps 514, 516, and 518: pixel is not a max or min, so at least one of the difference values has a different sign).

In regard to claim 10, Kakarala, et al., US 2004/0051798, discloses a method of identifying and correcting defective ones of an array of photo-sensitive pixels, comprising:

directing an object field of varying light intensity across the array (see para. 29),

calculating difference values between outputs of individual ones of the pixels and a plurality of neighboring pixels (see figure 5A, steps 504-508 and para 47-52),

if the difference values for a given one of the pixels have different signs, utilizing only that result to conclude that the given pixel is not defective and thereafter using the output of the given pixel for data of the object field (see figure 5A, step 518 and para 54),

if the difference values for the given pixel have the same sign, determining whether the difference values are in excess of a threshold (see fig. 5B, step 534 and fig. 5C, step 564),

if the difference values are not in excess of the threshold, utilizing the output of the given pixel for data of the object field (see figure figures 5B, step 546 and 5C, step 576), and

if the difference values are in excess of the threshold, calculating a value of the given pixel from at least some of the neighboring pixels and utilizing the calculated pixel value for data of the object field (see fig. 5B, step 548 and 5B, step 578).

In regard to claim 11, Kakarala, et al., US 2004/0051798, discloses a method of generating a sequence of signal outputs from individual photo-sensitive elements in an array while the array is illuminated with an object field of varying light intensity thereacross, comprising:

calculating a plurality of difference values between outputs of individual ones of the elements and outputs of a plurality of neighboring elements pixels (see figure 5A, steps 504-508 and para 47-52),

determine the signs of the difference values for a given one of the individual elements in sequence (see figure 5A, steps 514 and 516 and para 54),

if the difference values for the given one of the individual elements have different signs, utilize the actual output of the given element as one of the sequence of signal outputs of the array (see figure 5A, step 518 and para 54), and

if the difference values for the given element have the same signs, only then proceed to compare magnitudes of the difference values with at least one threshold (see fig. 5B, step 534 and fig. 5C, step 564), and

if the difference values exceed the threshold, calculate a quantity corresponding to the output of the given element from the outputs of the neighboring elements and use the calculated quantity as said one of the sequence

of signal outputs of the array instead of the actual output (see fig. 5B, step 548 and 5B, step 578).

In regard to claim 12, Kakarala, et al., US 2004/0051798, discloses the method of claim 11, wherein said at least one threshold includes at least first and second threshold quantities that are different from each other (see figure 5A, steps 514-517: if sign is positive determines threshold using max of gradients (fig. 5B) and if sign is negative determines threshold using min of gradients (fig. 5C)).

In regard to claim 13, Kakarala, et al., US 2004/0051798, discloses the method of claim 12, wherein comparing magnitudes of the difference values with the at least one threshold includes comparing negative difference value magnitudes with the first threshold and positive difference value magnitudes with the second threshold (see figure 5A, steps 514-517: if sign is positive determines threshold using max of gradients (fig. 5B) and if sign is negative determines threshold using min of gradients (fig. 5C)).

In regard to claim 16, Kakarala, et al., US 2004/0051798, discloses an image capturing device, comprising:

a sensor (see figure 1, element 20) having a two-dimensional array of photo-sensitive elements and positioned to have an image with a varying light intensity projected thereacross, the sensor providing signal outputs of the individual elements in sequence according to a level of light intensity projected on the individual elements (see para. 27-29), and

an electronic processor (see figure 1, element 40) receiving the signal outputs of the sensor elements to provide data of image pixels, the processor

operating with signal processing that includes, for individual signal outputs of the sensor elements in sequence:

calculating difference values between outputs of the individual element and a plurality of neighboring elements (see figure 5A, steps 504-508 and para 47-52),

if the difference values for the individual element have different signs, deciding to provide data of a corresponding image pixel therefrom without performing any further processing of the signal outputs of the elements to make the decision (see figure 5A, step 518 and para 54),

if the difference values for the individual element have the same sign, determining whether the difference values are in excess of a threshold (see figure figures 5B and 5C and para 71 and 87),

if the difference values are not in excess of the threshold, deciding to provide the data of the corresponding image pixel therefrom (see figure figures 5B, step 546 and 5C, step 576), and

if the difference values are in excess of the threshold, calculating the data of the corresponding image pixel from the signal outputs of at least some of the elements neighboring the individual element (see fig. 5B, step 548 and 5B, step 578).

Allowable Subject Matter

4. Claims 4 and 5 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter:

In regard to claims 4 and 5, the prior art does not disclose a method with the combination of limitations specified in the claimed invention, specifically the limitations of:

wherein said threshold includes either of at least first or second quantities that are different from each other depending upon a distance between the given pixel and individual ones of its neighboring pixels, as stated in claim 4;

wherein a value of said threshold is dependent upon (a) whether said same sign is positive or negative and (b) a distance between the given pixel for data of the object field, as stated in claim 5.

6. Claims 14 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gevell Selby whose telephone number is 571-272-7369. The examiner can normally be reached on 8:00 A.M. - 5:30 PM (every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on 571-272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

gvs

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